

# What's Cropping Up?

A NEWSLETTER FOR NEW YORK FIELD CROPS & SOILS

VOLUME 19, NUMBER 4, SEPTEMBER-OCTOBER 2009

In choosing corn hybrids for grain production, the two most important considerations for any grower are maturity and yield potential. Maturity comes first, because it's of no use to have the most fantastic yield potential in the world if the grain will not be able to mature and dry

down reasonably in the production environment available to it. Recent years have included a number of growing seasons with plenty of summer heat and nice warm fall weather with late frosts. Growers have been able to produce hybrids that are longer season than one might expect in many areas.

Summer 2009 provides a reminder that it's not always going to be that way! With growing degree days running well behind over much of the state and weather during September and early October unknown, it's a good year to have planted some hybrids that are guaranteed to mature in the available growing season. For any season, it's a good strategy to choose a mix of longer season hybrids that will take good advantage of a year that happens to have a long, warm growing period and shorter season hybrids that are virtually guaranteed to mature and that can be planted in cooler microclimates or at later dates.

Beyond maturity, any grower wants to choose a

## Corn Grain Hybrids for New York

Margaret Smith, Ramie Ericson, Sherrie Norman, Keith Payne, and Judy Singer,  
Department of Plant Breeding and Genetics,  
Cornell University

hybrid with excellent yield potential as well. Yield potential is a function of the genetics of the hybrid and is clearly also affected by hybrid maturity. It's a simple relationship with maturity – the more heat and light a hybrid absorbs during active growth, the more

photosynthate it has available to fill out grain on the ear. So if the growing season were unlimited, the later hybrids would always yield more because they have more time to capture and utilize the sun's energy in forming their grain. Growers need to focus on choosing those hybrids that have good

**Table 1. Hybrids for early grain (1400–1900 growing degree days<sup>1</sup>, 70–90 days relative maturity).**

*Hybrids in order of maturity*

Brand or Source	Hybrid	Comparative Yield <sup>2</sup>	Comparative Standability <sup>3</sup>	Years in Tests	No. Tests
Cornell	M1821	90	7.8	1	3
Hyland	HL CVR44	102	8.1	1	3
Growmark FS	3968VT3	107	7.8	1	3
Hyland	HL R230	99	7.6	1	3
T A Seeds	TA290-19	97	7.5	1	3
T A Seeds	TA370-00	113	7.6	1	3
Dekalb	DKC38-89(VT3)	111	8.1	1	3
Hyland	HL CVR48	108	8.0	1	3
Doebler's	372XRR	104	8.3	1	3
Growmark FS	3989VT3	110	7.8	1	3
Croplan Genetics	294RR/BT	108	7.3	1	3
Growmark FS	4282VT3	107	7.8	1	3

<sup>1</sup>**Growing degree day** ratings for New York–adapted corn hybrids range from 1400 to 3000. Within the growing degree day range for this table, the hybrids listed first are earlier maturing and those listed last are later maturing.

<sup>2</sup>**Comparative yield ratings** are obtained in Cornell statewide tests from yields adjusted to an average of 100. A hybrid with a rating of 110 has performed 10 percent above average in trials where it was entered. Rating differences smaller than 5 percent are probably not statistically significant.

<sup>3</sup>**Comparative standability** is the comparative resistance to stalk lodging in Cornell tests on the basis of 1 to 9, with 1 indicating the lowest resistance and 9 the highest.

## Crop Management

genetic potential for grain yield within a maturity class that will fit their production areas.

Every year, Cornell University invites seed companies to enter their corn hybrids in grain yield evaluation trials within each of three maturity classes:

early (70 to 90 days relative maturity), medium-early (85 to 105 days relative maturity), and medium to late (100 to 120 days relative maturity).

Within these groupings, hybrids are planted in three to five locations that are appropriate for their maturity. Trials are grown in farmer-cooperators' fields at about nine locations around the state, and also at one location on an experimental farm (Chazy in northern New York).

Cooperators carry out land preparation, weed control, and side-dressing as appropriate.

We plant the hybrids using a precision vacuum planter, collect data throughout the growing season, and harvest them by machine (except at Chazy where hybrids are hand harvested by Mike Davis and his crew – we thank them!).

Each hybrid is evaluated in a two-row plot that is 17.5 feet long (plot size 1/500th acre), with three replications of each hybrid per location. Data are collected on final plant stand, stalk strength (a scale of 1 to 9 is used, where the stalks are pushed by hand, and resistance to pushing and breaking is rated as 9 if the stalks have strong resistance against breakage when pushed, or lower if they

**Table 2. Hybrids for medium-early grain (1900–2400 growing degree days<sup>1</sup>, 85–105 days relative maturity).**

<i>Hybrids in order of maturity</i>					
Brand or Source	Hybrid	Comparative Yield <sup>2</sup>	Comparative Standability <sup>3</sup>	Years in Tests	No. Tests
Dyna-Gro	54V78	108	7.7	1	4
N K	N27B-CB/LL/RW	96	7.7	1	4
LICA	1898CB/LL	98	7.5	1	4
Growmark FS	4465VT3	106	8.0	1	4
Hyland	HL CVR54	96	7.7	1	4
Hyland	HL CVR64	99	8.0	1	4
T A Seeds	TA451-11	105	7.6	2	8
Growmark FS	4373VT3	99	7.9	2	8
Dekalb	DKC46-60(VT3)	101	8.1	2	8
Croplan Genetics	388TS	105	7.7	1	4
Doebler's	468RB	104	8.0	3	13
Dyna-Gro	55V18	104	7.9	2	8
Growmark FS	4861VT3	107	7.9	2	8
Garst	88C97CB/LL	106	7.6	1	4
Dekalb	DKC50-44(VT3)	112	8.0	1	4
LICA	9707BT/LL	94	7.4	1	4
Growmark FS	4819XRR	103	8.1	2	8
Croplan Genetics	421TS	108	8.0	2	8
Hyland	HL CVR72	104	8.0	1	4
Hyland	HL CVR74	113	7.8	1	4
T A Seeds	TA500-16	108	8.2	1	4
Doebler's	467BVR	103	7.9	1	4
Hyland	HL B49R	108	8.2	1	4
LICA	19C00	110	7.8	1	4
Growmark FS	5484VT3	107	8.0	1	4

<sup>1</sup>**Growing degree day** ratings for New York–adapted corn hybrids range from 1400 to 3000. Within the growing degree day range for this table, the hybrids listed first are earlier maturing and those listed last are later maturing.

<sup>2</sup>**Comparative yield ratings** are obtained in Cornell statewide tests from yields adjusted to an average of 100. A hybrid with a rating of 110 has performed 10 percent above average in trials where it was entered. Rating differences smaller than 5 percent are probably not statistically significant.

<sup>3</sup>**Comparative standability** is the comparative resistance to stalk lodging in Cornell tests on the basis of 1 to 9, with 1 indicating the lowest resistance and 9 the highest.

## Crop Management

are weak and break easily), grain yield, and grain moisture at harvest.

Every year, we summarize the data over years for all hybrids that are included in that year's testing program. Many hybrids will be new to our testing program, so may have only one year worth of testing data. Others will have been tested in one or more previous years. You can always have more confidence in the data from those hybrids that have been tested in the most environments, because they have proven their performance over a greater range of different conditions. Because hybrid performance will vary from location to location and year to year, we report the data as percentage of the test average. In other words, a hybrid with a comparative yield

of 110 had a yield that was 10% above the average of all the hybrids tested in the same locations. The tables below report our hybrid grain yield evaluation data: early maturity hybrids in Table 1, medium-early maturity hybrids in Table 2, and medium to late hybrids in Table 3.

Recall that you should compare hybrids only with others in the same table. Comparisons of ratings between tables are misleading because the different maturity groupings are tested in different locations. Early hybrids are tested at short-season locations, medium-early maturity hybrids at slightly longer season locations, and medium and late hybrids at sites with a moderate to long growing season. High-yielding hybrids in the early group would probably do poorly in medium or late tests and vice versa, because they

are unadapted and inappropriate maturity for the sites where those tests are done.

In developing these tables, only those hybrids that performed above 90 percent of the test average and those that companies plan to offer for sale in New York in the coming cropping season are included. Not all hybrids are available in all regions of the state, however. For further help in selecting hybrids specifically suited to your needs, check with your Cornell Cooperative Extension educators and/or with seed company representatives. You can also find detailed results of each of our last four years of annual testing data at: <http://plbrgen.cals.cornell.edu/cals/pbg/programs/departamental/corn/index.cfm>

**Table 3. Hybrids for medium and long season grain (2400–2900 growing degree days<sup>1</sup>, 100–120 days relative maturity).**

<i>Hybrids in order of maturity</i>					
Brand or Source	Hybrid	Comparative Yield <sup>2</sup>	Comparative Standability <sup>3</sup>	Years in Tests	No. Tests
T A Seeds	TA510-19	104	7.5	1	4
Garst	87Y26GT	106	7.7	1	4
Dekalb	DKC52-59(VT3)	106	7.7	1	4
LICA	18B04	106	8.7	1	4
N K	N48G-CB/LL/RW	109	7.7	1	4
Dyna-Gro	54T42	102	7.8	1	4
Dyna-Gro	55V48	100	8.1	1	4
Dyna-Gro	55B49	100	8.2	2	7
T A Seeds	TA555-13V	107	8.2	1	4
LICA	18D04	101	7.9	1	4
T A Seeds	TA607-11	106	8.4	2	7
Dekalb	DKC62-29(VT3)	104	8.0	1	4
Doebler's	660BVR	108	8.2	1	4
Dekalb	DKC61-69(VT3)	114	7.8	1	4
Hyland	HL B337	110	7.7	3	11

<sup>1</sup>**Growing degree day** ratings for New York–adapted corn hybrids range from 1400 to 3000. Within the growing degree day range for this table, the hybrids listed first are earlier maturing and those listed last are later maturing.

<sup>2</sup>**Comparative yield ratings** are obtained in Cornell statewide tests from yields adjusted to an average of 100. A hybrid with a rating of 110 has performed 10 percent above average in trials where it was entered. Rating differences smaller than 5 percent are probably not statistically significant.

<sup>3</sup>**Comparative standability** is the comparative resistance to stalk lodging in Cornell tests on the basis of 1 to 9, with 1 indicating the lowest resistance and 9 the highest.